

Administering BIG-IP

Length 2 Days

Description

This 2 day course gives network administrators, network operators, and network engineers a functional understanding of the BIG-IP system as it is commonly deployed in an application delivery network.

The course introduces students to the BIG-IP system, its configuration objects, how it processes traffic, and how typical administrative and operational activities are performed. The course includes lecture, hands-on labs, interactive demonstrations, and discussions.

Participants

This course is intended for network administrators, operators, and engineers responsible for managing the normal day-to-day operation and administration of a BIG-IP application delivery network. This course presents the prerequisite knowledge for many other of F5's BIG-IP instructor-led training courses.

Prerequisites

There are no required F5 prerequisites for this course.

The following free web-based training courses, although optional, will be very helpful for any student with limited BIG-IP administration and configuration experience.

These courses are available at F5 University (<http://university.f5.com>):

- Getting Started with BIG-IP web-based training
- Getting Started with BIG-IP Local Traffic Manager (LTM) web-based training

The following general network technology knowledge and experience are recommended before attending any F5 Global Training Services instructor-led course:

- OSI model encapsulation
- Routing and switching
- Ethernet and ARP
- TCP/IP concepts
- IP addressing and subnetting
- NAT and private IP addressing
- Default gateway
- Network firewalls
- LAN vs. WAN

Objectives

- Getting started with the BIG-IP system
- Traffic processing with BIG-IP Local Traffic Manager (LTM)

- Using the TMSH (TMOS Shell) command line interface
- Using NATs and SNATs
- Monitoring application health and managing object status
- Modifying traffic behavior with profiles, including SSL offload and re-encryption
- Modifying traffic behavior with persistence, including source address affinity and cookie persistence
- Troubleshooting the BIG-IP system, including logging (local, high-speed, and legacy remote logging), and using tcpdump
- Always-On Management (AOM)
- User roles and administrative partitions
- vCMP concepts
- Customizing application delivery with iRules

Programme

Chapter 1: Setting Up the BIG-IP System

- Introducing the BIG-IP System
- Initially Setting Up the BIG-IP System
- Archiving the BIG-IP Configuration
- Leveraging F5 Support Resources and Tools
- Chapter Resources

Chapter 2: Traffic Processing Building Blocks

- Identifying BIG-IP Traffic Processing Objects
 - o Network Packet Flow
- Configuring Virtual Servers and Pools
- Load Balancing Traffic
- Viewing Module Statistics and Logs
- Using the Traffic Management Shell (TMSH)
 - o Understanding the TMSH Hierarchical Structure
 - o Navigating the TMSH Hierarchy
- Managing BIG-IP Configuration State and Files
 - o BIG-IP System Configuration State
 - o Loading and Saving the System Configuration
 - o Shutting Down and Restarting the BIG-IP System
- Saving and Replicating Configuration Data (UCS and SCF)
- Viewing the BIG-IP Connection Table
- Chapter Resources

Chapter 3: Using NATs and SNATs

- Address Translation on the BIG-IP System
- Mapping IP Addresses with NAT
- Solving Routing Issues with SNATs
- Configuring SNAT Auto Map on a Virtual Server
- Monitoring for and Mitigating Port Exhaustion
- Chapter Resources

Chapter 4: Monitoring Application Health

- Introducing Monitors
- Types of Monitors
- Monitor Interval and Timeout Settings
- Configuring Monitors
- Assigning Monitors to Resources
- Managing Pool, Pool Member, and Node Status
- Using the Network Map
- Chapter Resources

Chapter 5: Modifying Traffic Behavior with Profiles

- Introducing Profiles
- Understanding Profile Types and Dependencies
- Configuring and Assigning Profiles
- Chapter Resources

Chapter 6: Modifying Traffic Behavior with Persistence

- Understanding the Need for Persistence
- Introducing Source Address Affinity Persistence
- Introducing Cookie Persistence
- Introducing SSL Offload and SSL Re-Encryption
- Managing Object State
- Introducing Action on Service Down

Chapter 7: Troubleshooting the BIG-IP System

- Configuring Logging
 - o Introducing BIG-IP System Logging
 - o Legacy Remote Logging
 - o Introducing High Speed Logging (HSL)
 - o High-Speed Logging Filters
 - o HSL Configuration Objects
 - o Configuring High Speed Logging
- Using tcpdump on the BIG-IP System
- Leveraging the BIG-IP iHealth System
- Working with F5 Support
 - o Information Required when Opening a Support Case
 - o Providing Files to F5 Technical Support
 - o Running End User Diagnostics
- Chapter Resources

Chapter 8: Administering the BIG-IP System

- Leveraging Always-On Management (AOM)
- Expanding Availability with Device Service Clustering (DSC)
- Viewing BIG-IP System Statistics
- Defining User Roles and Administrative Partitions

- Leveraging vCMP
- Chapter Resources

Chapter 9: Customizing Application Delivery with iRules

- Identifying iRules Components
- Triggering iRules with Events
- Leveraging the iRules Ecosystem on DevCentral

Chapter 10: Additional Training and Certification

- Getting Started Series Web-Based Training
- F5 Instructor Led Training Curriculum
- F5 Professional Certification Program